

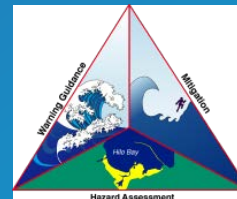
California Tsunami Preparedness & Hazard Mitigation Program



Kate Long

Kevin Miller & Jeri Siegel

**Governor's Office of Emergency Services
Earthquake & Tsunami Program**



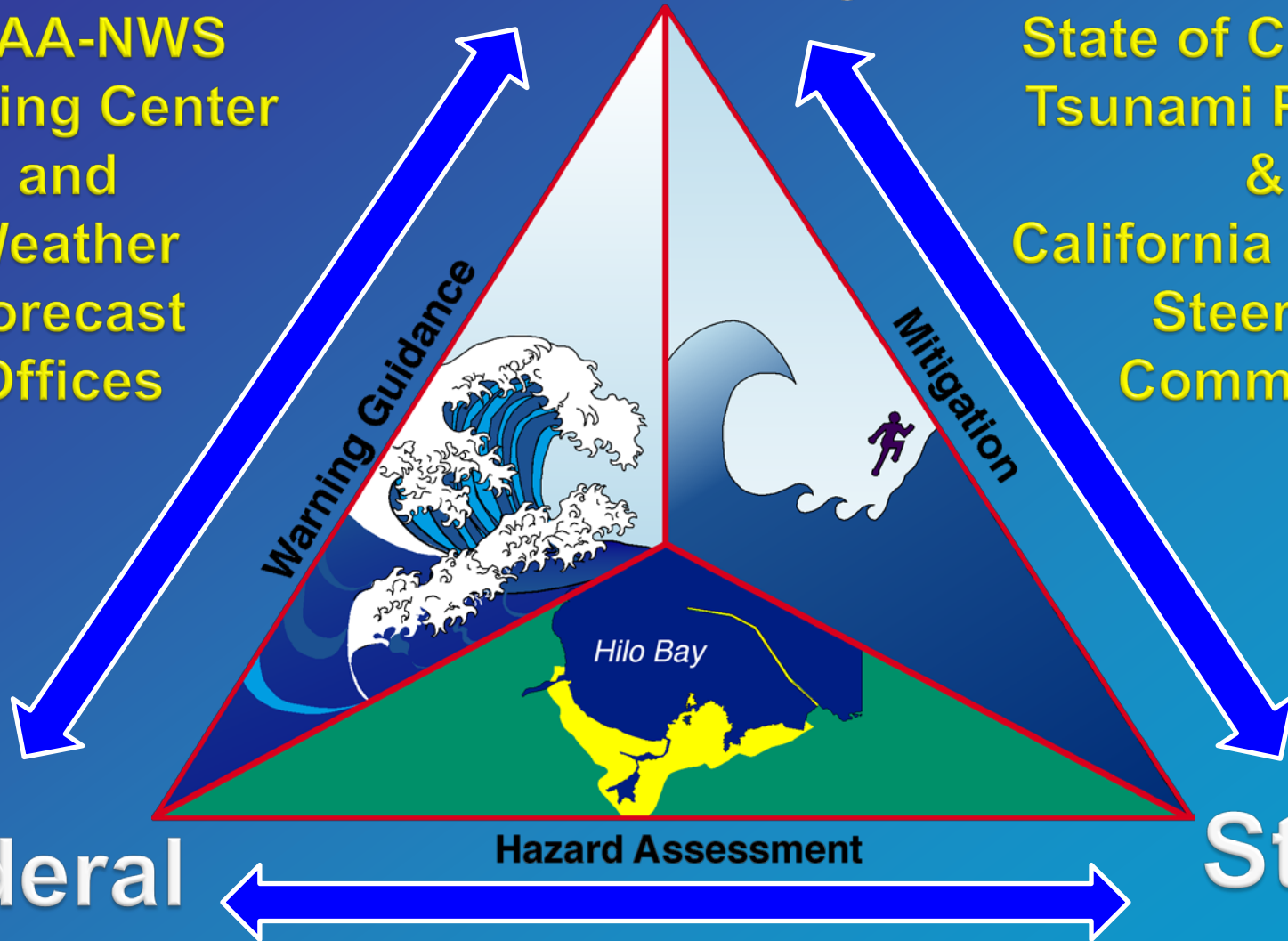
**National
Tsunami
Hazard
Mitigation
Program**

**Los Angeles County Operational Area Tsunami Seminar
National Tsunami Awareness Week
March 27, 2014**

Local Govt/
Community

NOAA-NWS
Warning Center
and
Weather
Forecast
Offices

State of California
Tsunami Program
&
California Tsunami
Steering
Committee

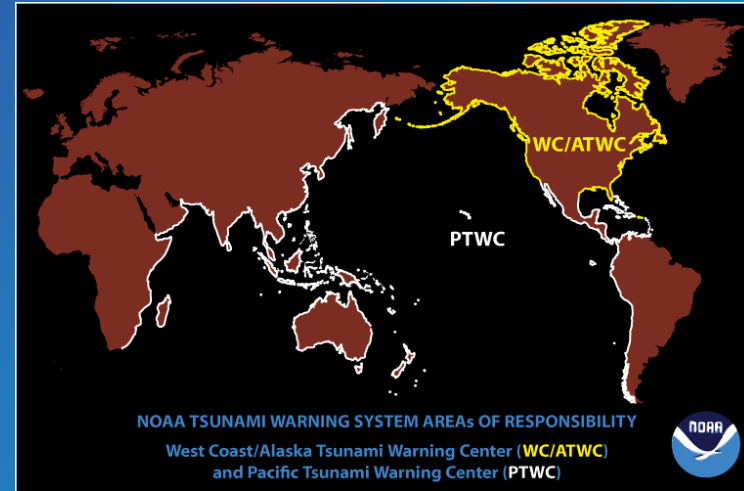
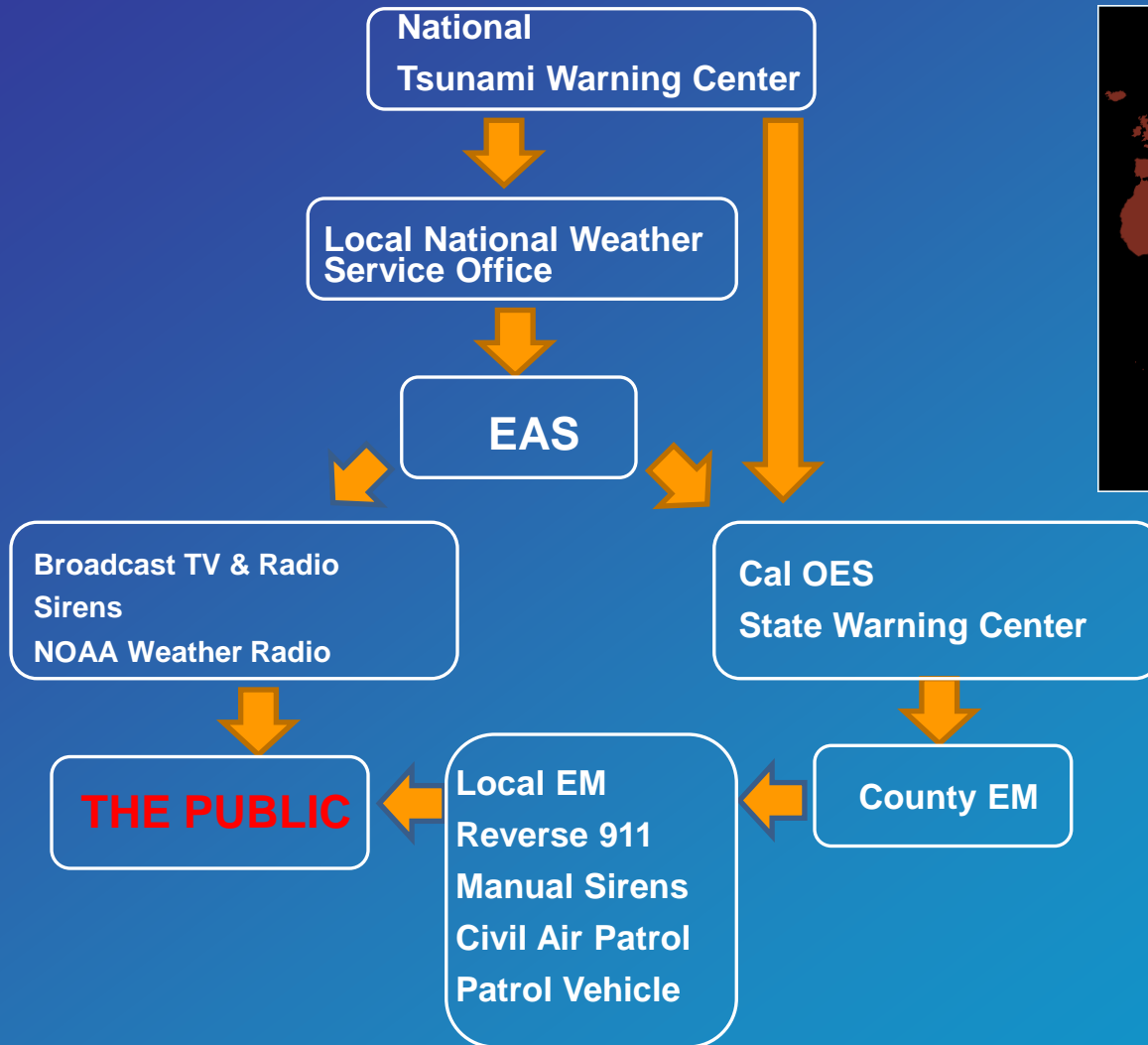


Federal

State

NATIONAL TSUNAMI HAZARD MITIGATION PROGRAM

Information Flow during Tsunami Alert and Warning (Top Down)



Emergency Management Protocol in Response to Tsunami (Bottom Up)

State Support to Operational Areas

- 3 State Operations Centers
- Calls with National Warning Center
- Calls with Emergency Managers in 20 coastal counties
- Observers in (safe) locations along the coast
- Regional staff supporting OA EOCs during warning/response and assisting with damage assessment

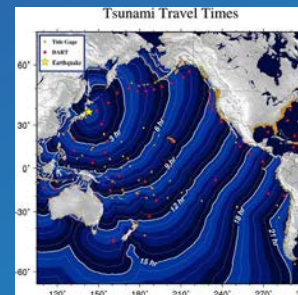


**Tohoku
2011**

Technical information from NTWC Calls:

Specific areas/locations of heightened concern based on

- Initial Wave Arrival Times
- Forecast Wave Heights
- Normal Tide Conditions

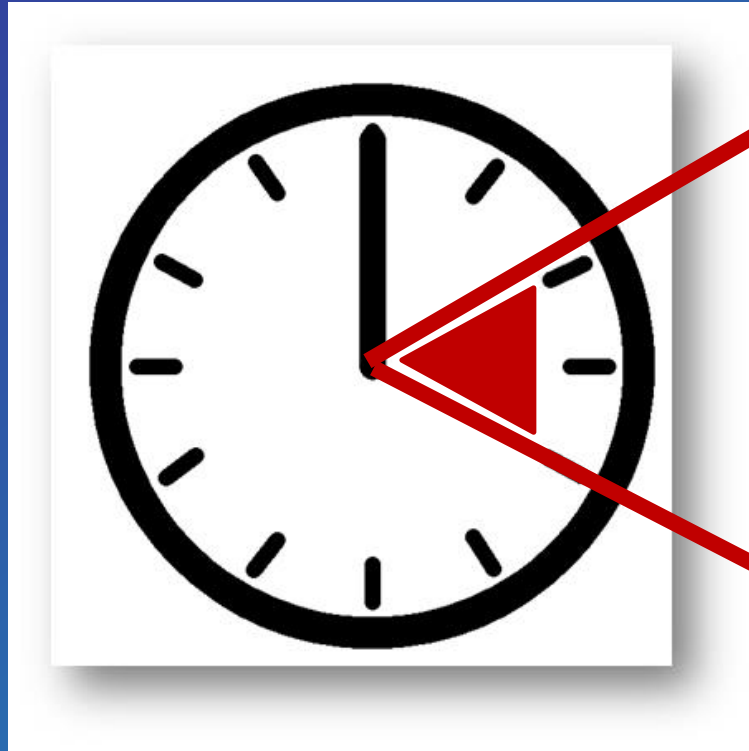


Current & projected status of WARNING / ADVISORY / WATCH

What will be in the next bulletin? When it will come out?

Any specific questions or clarifications from states and entities

SAFRR Tsunami Scenario a “Short Fuse” Event



Receive

Understand

Consult

Decide

Communicate

Take Action

Chapter 8's Tsunami Risk- A Call For Action is a report from
the Pacific Tsunami Warning Center (PTWC) and the National Oceanic and Atmospheric Administration (NOAA) regarding the potential for a major tsunami in the Pacific Ocean. The report is a call to action for the United States and other countries in the Pacific region to take steps to reduce the risk of a major tsunami. The report is written by Nathan W. Kervin, M. Miller and Kate Long.

Planning & Preparedness



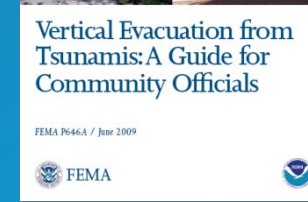
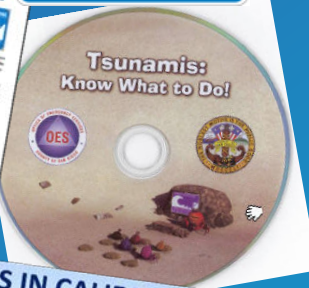
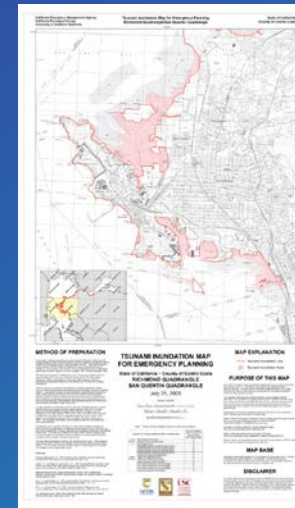
State of California TSUNAMI PREPAREDNESS

CURRENT:

- Inundation Maps
 - Evacuation Planning
 - Tsunami Signs
- Training
- Exercise Support
- Warning System Testing
- TsunamiReady Program
- Outreach Materials
- Tsunami Preparedness Week

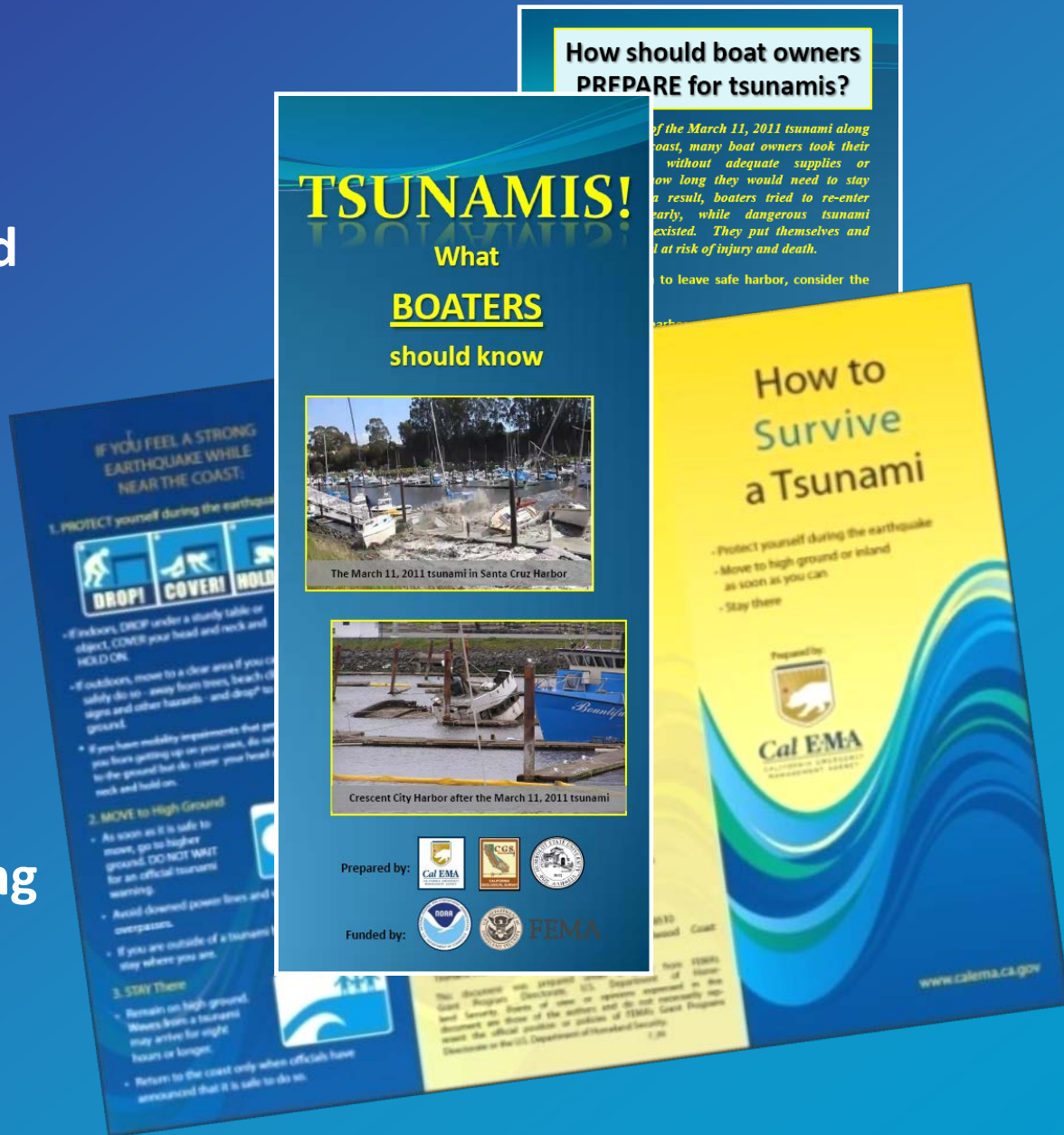
NEXT STEPS:

- Probability Maps
- Maritime Guidance

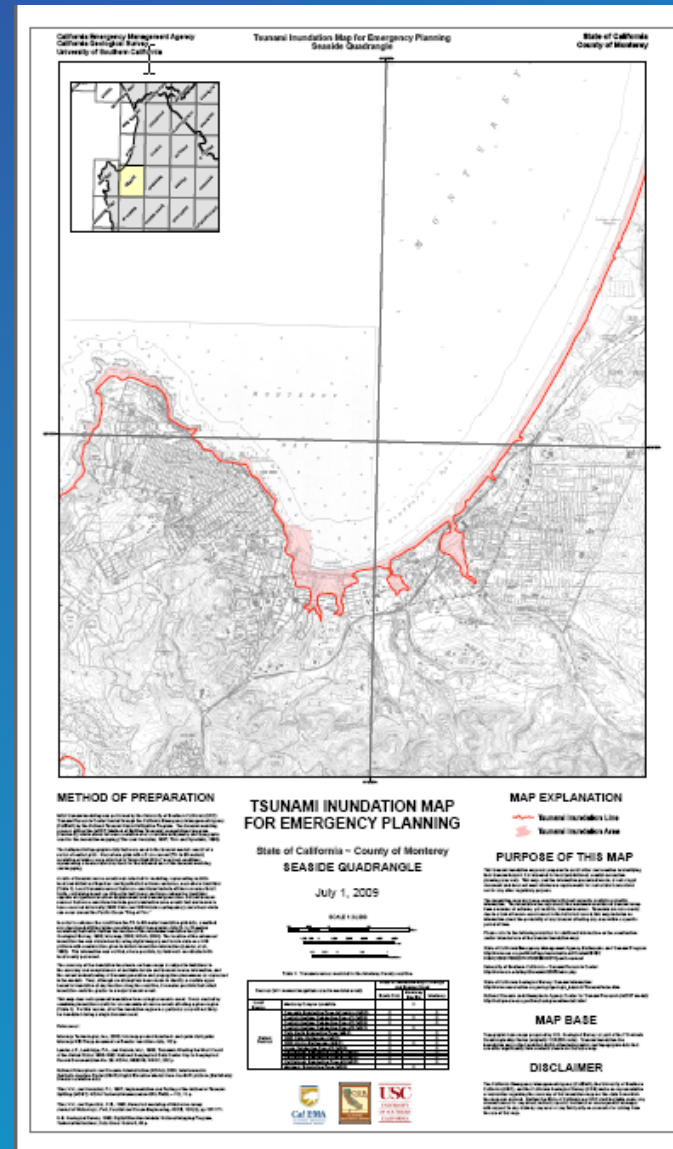
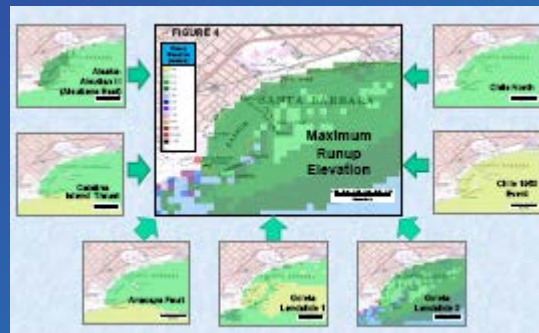
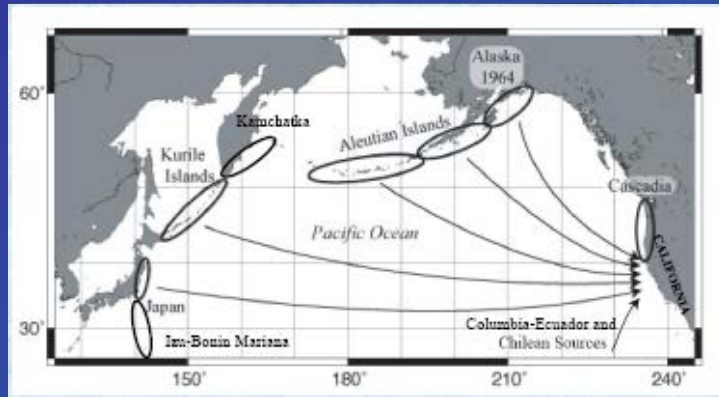


Policy/Guidance/Outreach

- Statewide Steering Committee
- Brochures for public and boaters (right)
- Policy group forming
 - Planning issues
 - Recovery issues
- Guidance for harbor masters and boaters needed
 - Advisory and Warning events



Creating the Inundation Maps



TSUNAMI SIGNAGE

Available through CalOES

Web Search: “Caltrans Tsunami”



How can your constituents find out about hazards near work, home, or school?

Go to <http://myhazards.calema.ca.gov>

CA.GOV California Emergency Management Agency | Hazard Mitigation Portal
MyHazards
Helping reduce your risks from natural disasters

Concord, CA, USA [Map Search] [Clear Search]

Instructions [Earthquake] [Flood] [Fire] [Tsunami]

click on tabs above to change from earthquake, flood and fire

Earthquake Hazard

YOU ARE IN OR NEAR THE FOLLOWING:

- HIGH Ground Shaking**
This map shows the potential level of ground shaking hazard from earthquakes that geologists and seismologists agree could occur in California. It takes into consideration the uncertainties in the size and location of earthquakes and the resulting ground motions that can affect a particular location. (more information at <http://www.conservation.ca.gov/cgs/rghm/psha/index.htm>)

YOU ARE OUTSIDE THE FOLLOWING:

- Earthquake-Induced Landslide Hazard zone***
Earthquakes can trigger landslides that may cause injuries and damage to many types of structures. (more information at <http://www.conservation.ca.gov/cgs/rghm/psha/index.htm>)
- Liquefaction Seismic Hazard zone***
Earthquakes can cause certain types of soils to lose strength and behave like liquid. This can severely damage buildings and other structures. (more information at <http://geomaps.wr.usgs.gov/sfgeo/liquefaction/aboutliq.html>)
- Earthquake Fault zone***
Active earthquake faults may pose a risk of surface fault rupture hazard. Surface rupture can damage buildings. (more information at <http://www.conservation.ca.gov/cgs/rghm/ap/index.htm>)

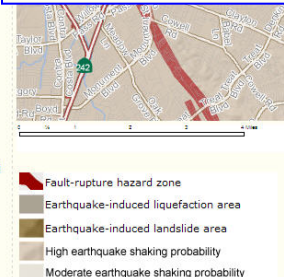
Earthquake Checklist

WHAT SHOULD I DO?

Based on the above results, use the following mitigation checklist and information to reduce injuries, protect your life and those of others, and reduce damage to your home and property.

Recommended Actions for your Ground Shaking Intensity:

ACTION	RECOMMENDATION
<input type="checkbox"/> Secure your water heater	recommended
<input type="checkbox"/> <u>Secure your tall furniture and bookcases</u>	recommended
<input type="checkbox"/> Secure your TVs, computers, and electronics	recommended
<input type="checkbox"/> Secure your kitchen cabinets	recommended
<input type="checkbox"/> Secure wall-mounted objects	recommended
<input type="checkbox"/> Secure objects on open shelves or table tops	recommended
<input type="checkbox"/> Secure natural gas appliances	recommended
<input type="checkbox"/> Secure garage items and hazardous chemicals	recommended
<input type="checkbox"/> Secure your unreinforced masonry chimney	recommended
<input type="checkbox"/> Reinforce your home	recommended
<input type="checkbox"/> Secure propane tanks	recommended
<input type="checkbox"/> Secure your kitchen appliances	recommended
<input type="checkbox"/> Secure your shop or gym equipment	recommended



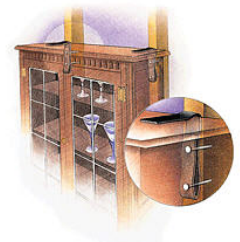
Tall Furniture/Bookcases

Secure the tops of all top-heavy furniture, such as bookcases and file cabinets, to a wall. Be sure to anchor to the stud, and not just to the drywall. Flexible fasteners such as nylon straps allow tall objects to sway without falling over, reducing the strain on the studs. Loose shelving can also be secured by applying earthquake putty on each corner bracket.

Securing bookcases and all things tall

Tall pieces of furniture, such as bookcases, china hutches, and armoires are very likely to fall when the ground is rolling and shaking. You can prevent them from falling on someone you care about, and save their contents, by completing these simple steps:

1. Secure the furniture item to the wall stud.
 - o Locate the wall studs using a stud finder
 - o Secure each furniture piece to at least two wall studs, depending on size and weight, using:
 - Commercially available kits

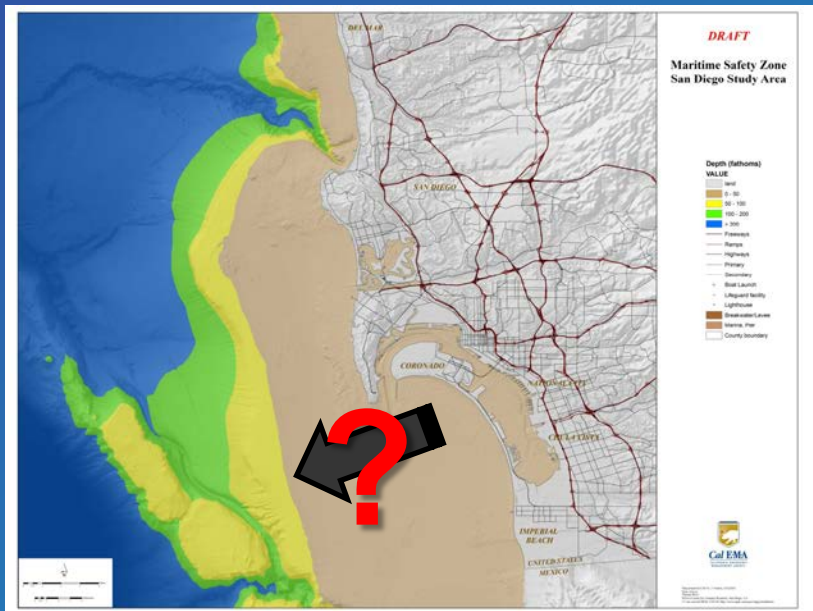


Tall furniture should be attached to wall studs to avoid toppling in an earthquake.

Larger image

CA Tsunami Maritime Safety Plan

1. Create offshore safety zone maps [offshore evacuation]
2. Create in-harbor hazard maps [damaging currents]
3. Provide statewide guidance for evacuation planning and harbor protection [based on above results]



TSUNAMI PREPAREDNESS WEEK 2014

Last week of March 2014

- Great Alaska EQ/Tsunami 50th Anniversary
- County Board of Supervisors' Proclamations
- Governor's Proclamation
- Federal Push for Presidential, chance for leveraging nat'l atten. locally...



Tsunami Warning Communications Test (North Coast)

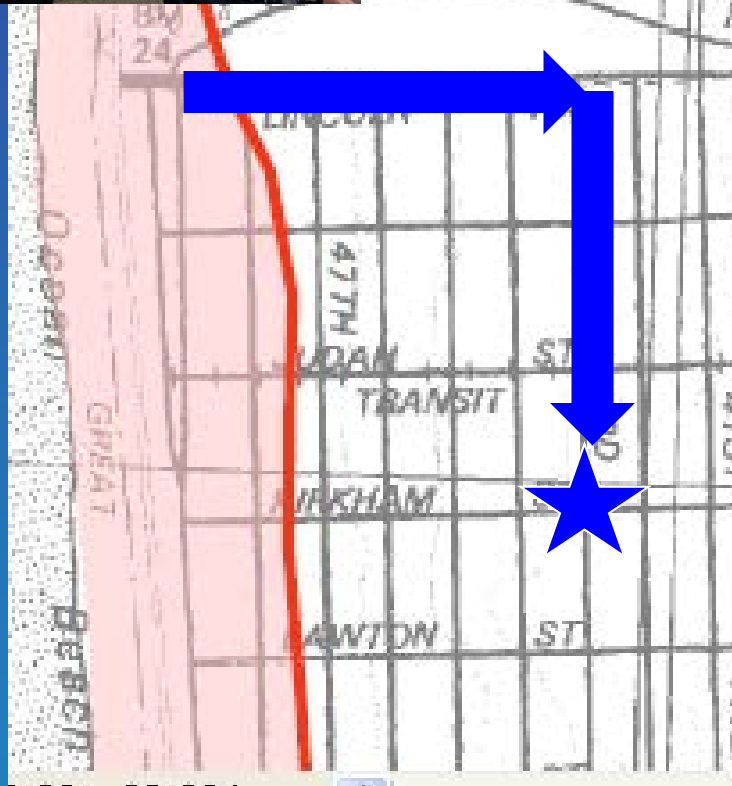
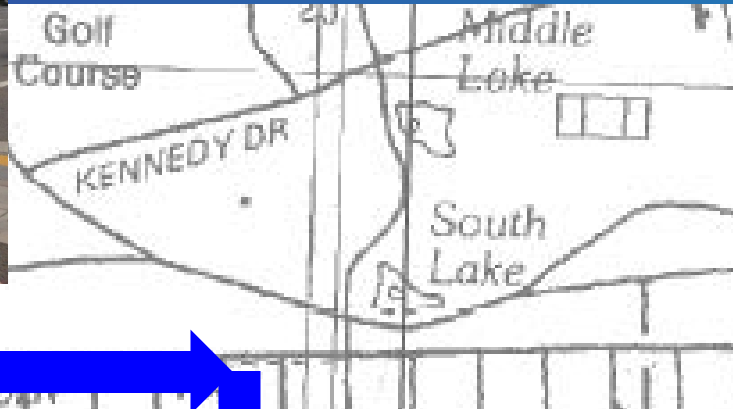
Routine/Required Monthly Test (Everyone Else)

- Associated activities (evacuation drills, school activities, airplane fly-overs)

Pacific-wide, NOAA-Sponsored Exercise

- Based on SAFRR Scenario developed in California
- Community-level outreach, workshops and exercises
 - San Francisco City/County; Monterey County; Los Angeles County

Tsunami Walks



Tsunamizone.org

- Mirrors ShakeOut.org
- Prep information
- Events
- Drill registration and metrics

Home Contact Us Search Login

The **TsunamiZone** Tsunami Preparedness Week **March 23-29, 2014**

Register Here! Know Your Zone Who is Participating? How to Participate Resources News & Events Partners & Sponsors

WELCOME TO THE TSUNAMIZONE!

This March 23-29*, thousands of Californians will learn and practice how to survive a tsunami.

Join them today by [registering](#) what you will do in your home, organization, or community. Participating is a great way for your family or organization to "know your zone" if you live or work near the ocean (or may visit), and to learn what to do to be safe.

This year's Tsunami Preparedness Week commemorates the 50th anniversary of the March 27, 1964 Great Alaska Earthquake and Tsunami.

* You can register tsunami activities held any time in March or April, 2014.

TSUNAMI WEEK EVENTS

[Tsunami Awareness and Preparedness Event](#)
Mar. 24, Southern California West

[La Jolla Tsunami Walk](#)
Mar. 26, San Diego

[Full-scale Evacuation Drill](#)
Mar. 26, North Coast

[Huntington Beach Tsunami Walk](#)
Mar. 27, Southern California West

[Exploratorium Lab and Lunch: Preparing for a Tsunami](#)
Mar. 27, Bay Area

[Marina District Tsunami Walk](#)
Mar. 28, Bay Area

[See more events...](#)

542 participants registered

PARTICIPATE AND SHARE

[How to Participate](#)
Information for individuals, schools and many types of organizations

[Tsunami Week Resources](#)
Manuals, posters, & much more

[Who is Participating?](#)
Lists by county, area, & category

[Share Your Activities](#)
Your photos, videos, and stories of tsunami preparedness week

CHECK THE STATS

542 participants and counting!

Click the map for details about each area

TSUNAMI TALK

The Tsunami Zone
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We're all in this together.



**Working Together to Promote and Improve
Preparedness, Mitigation, and Resilience**

www.earthquakecountry.org/alliance

THANKS!

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NOAA

www.tsunami.gov

State of California

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myhazards.calema.ca.gov

